UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,109	05/01/2006	Ziyan Wang	GP-303611-RD-KAM	1734

81466 7590 03/25/2010

MacMillan, Sobanski & Todd, LLC
One Maritime Plaza
720 Water Street
5th Floor
Toledo, OH 43604

EXAMINER	
KIM, CHONG R	

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
03/25/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/578,109	WANG ET AL.	
	Examiner	Art Unit	
	CHARLES KIM	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 6-29* is/are rejected.

7)☒ Claim(s) *3-5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment and Arguments

1. Applicants' amendment filed on January 28, 2010 has been entered and made of record.

2. In light of Applicants' amendments, the objection to claim 7 is withdrawn.

3. In light of Applicants' amendments and arguments, the rejection of claims 2, 8, 9, and 21 under 35 USC 112 second paragraph are withdrawn.

4. With respect to the remaining claim rejections, Applicants' arguments have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Applicants argue that their claimed invention (claim 1) differs from the prior art because "A device for guiding the handwriting strokes along a predetermined track for actuating respective switches in the track for producing a respective character is not shown or suggested by Nishikawa." (Response, p. 8). The Examiner disagrees.

As explained in the previous Office action, Schauer discloses a device comprising an input surface that detects handwriting strokes by actuating switches to produce a respective character. However, Schauer does not disclose a guidance device provided on the input surface and extending along a predetermined track for guiding hand-writing strokes to follow the predetermined track, as recited in claim 1. These features were nonetheless taught by Nishikawa in at least figures 15-20.

The Examiner notes that the combination of Schauer and Nishikawa would have resulted in Schauer's input surface, which comprises the plurality of switch elements for inputting a character using hand-writing strokes, along with Nishikawa's guidance device, which comprises

a predetermined track for guiding hand-writing strokes to follow the predetermined track. Moreover, the benefit of adding Nishikawa's guidance device to Schauer's input surface would have been to allow the user to input data blindly, i.e., without requiring the user to actually see the touch pad [*Nishikawa, par. 7*]. As such, it would have been obvious to combine Schauer and Nishikawa in this manner. Therefore, contrary to what Applicants contend, the combination of Schauer and Nishikawa teach the limitations recited in claim 1.

Applicants further argue that their claimed invention (claim 2) differs from the prior art because "Nishikawa fails to describe a closed surface." (Response, p. 8). In contrast to their claimed invention, Applicants contend that figure 3 of Nishikawa illustrates an open-ended track.

In response, the Examiner would like to point out that figure 3 of Nishikawa was not relied upon to teach the features recited in claim 2. Instead, the Examiner relied on figure 20 to show the closed curve (see previous Office action). Because Applicants have not explained how figure 20 of Nishikawa fails to disclose a closed surface, Applicants' arguments that Nishikawa does not teach the limitations of claim 2 are unpersuasive.

Applicants further argue that their claimed invention (claim 7) differs from the prior art because "Schauer and Nishikawa fail to describe that the first plurality of lengths and the second plurality of lengths are non-symmetrical." (Response, p. 9). The Examiner disagrees.

Initially, the Examiner would like to note that claim 7 is dependent on claim 2, which fails to specifically define what the first plurality of points are, but instead, merely requires that the first plurality of points are sequentially arranged on a closed curve. This is broadly construed to include any two arbitrary sequential points on a closed curve. It then follows that the first plurality of lengths are merely the lengths between any two adjacent first plurality of points.

Similarly, the second plurality of lengths are also broadly construed because they are defined by a second plurality of points, which comprises *any* arbitrary point on the closed curve.

In light of this broad construction of the claim terms recited in claims 2 and 7, figure 20 of Nishikawa is considered to teach the claimed first plurality of lengths and second plurality of lengths that are non-symmetrical. For example, starting from the upper-left shaded dot (switch) in the device illustrated in figure 20, the shaded dot (switch) located one position to the right and below is considered the "point inside of said closed curve." Because this point is off-center, a second plurality of lengths from this point to points on the closed curve will produce a pattern that is non-symmetrical. Moreover, because the first plurality of lengths can be defined by any two arbitrary sequential points on the closed curve, the first plurality of lengths will also produce a pattern that is non-symmetrical. Therefore, Nishikawa discloses a first plurality of lengths and the second plurality of lengths that are non-symmetrical, as recited in claim 7.

Applicants further argue that their claimed invention (claim 8) differs from the prior art because "Neither Schauer nor Nishikawa describe or show a closed curve surface." (Response, p. 9). The Examiner disagrees. As noted on page 5 of the previous Office action, figure 20 of Nishikawa illustrates a closed curve defined by the entire surface of the touch pad.

Applicants further argue that their claimed invention (claim 9) differs from the prior art because "Fig. 20 [of Nishikawa] fails to describe or suggest the closed curved surface formed by the first plurality of lengths and the second plurality of lengths." (Response, p. 9). In response, the Examiner would like to refer Applicants to the arguments above with respect to claim 7.

Applicants' remaining arguments are addressed in the claim rejections below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-2, 6-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Schauer, U.S. Patent Application Publication No. 2002/0145592 ("Schauer") and Nishikawa et al., E.P. Patent No. 1 014 295 A2 ("Nishikawa").

Referring to claim 1, Schauer discloses a hand-writing device for inputting characters, comprising:

an input surface [*par. 13. Note the touchpad.*]; and

a plurality of switch elements provided at positions on the input surface [*fig. 1*], at least certain of said switch elements being triggered by a hand-writing stroke to produce an output signal when a specific character is input by hand-writing, and wherein the combination of the output signals of said triggered switch elements correspond to the inputted character [*par. 14. Note that the switch elements (i.e., keys) are triggered by a hand-writing stroke. For example, Schauer explains that the letter "c" can be inputted by applying a hand-writing stroke to the touch pad to trigger the keys 5, 4, 7, 8.*].

Schauer does not explicitly disclose a guidance device provided on the input surface and extending along a predetermined track for guiding hand-writing strokes to follow said predetermined track. However, this feature was well known in the art. For example, Nishikawa discloses a guidance device provided on an input surface (touch pad) and extending along a

predetermined track for guiding hand-writing strokes to follow said predetermined track [*figs. 15-20. Note the variety of different configurations for the guidance device that guides hand-writing strokes to follow a predetermined track.*].

Schauer and Nishikawa are combinable because they are both concerned with touch pad input devices. One of ordinary skill and creativity, starting with Schauer's touch pad would have looked to Nishikawa to incorporate Nishikawa's guidance device to achieve the predictable and desirable benefit of allowing the user to input data blindly, i.e., without requiring the user to actually see the touch pad [*Nishikawa, par. 7*]. Therefore, it would have been obvious to combine Schauer and Nishikawa to obtain the invention as specified in claim 1.

Referring to claim 2, Nishikawa further discloses that the predetermined track is a pattern composed of a first plurality of lengths and a second plurality of lengths, said first plurality of lengths including the lengths between each two adjacent points of a first plurality of points (Pi) sequentially arranged on a closed curve, and said second plurality of lengths is formed by a length starting from a point inside of said closed curve and ending at each of the second plurality of points (Pj) on said closed curve [*fig. 20. Note that claim 2 does not specifically define what the first plurality of points are, but instead, merely requires that the first plurality of points are sequentially arranged on a closed curve. This is broadly construed to include any two arbitrary sequential points on a closed curve. Figure 20 of Nishikawa illustrates a closed curve defined by the entire surface of the touch pad. Within this surface, there are recessed portions and non-recessed portions. The non-recessed portions are interpreted as the predetermined track. The Examiner notes that this track is a pattern composed of first plurality of lengths including the lengths between each two adjacent points (e.g., the region in the upper right hand corner and the*

circular region located immediately to the left and below). Moreover, the track is also composed of a second plurality of lengths formed by a length starting from a point inside the closed surface (e.g., the circular region to the left of the center circular region 80) and ending at each of the second plurality of points on the closed curve (e.g., the six non-recessed portions touching the edge of the touch pad).].

Referring to claim 6, Nishikawa further discloses that the pattern formed by the first plurality of lengths and the second plurality of lengths is substantially axially symmetric [*fig. 20*].

Referring to claim 7, see the rejection of claim 6 above.

Referring to claim 8, Nishikawa further discloses that the closed curve is a rectangle or ellipse [*fig. 20*].

Referring to claim 9, Nishikawa further discloses switch elements (hashed circular regions) that are positioned on each of the first plurality of lengths and on at least one of the two lengths in the second plurality of lengths [*fig. 20*].

Referring to claim 10, Nishikawa further discloses that the guidance device comprises a visual guidance device including a visual guide track [*figs. 15-20. Note that the recessed portions and non-recessed portions in each of the devices illustrated in figures 15-20 are visually perceptible.*].

Referring to claim 11, Nishikawa further discloses that the guidance device comprises a recess having a switch element (hashed circular region) therein [*fig. 20. Note the circular region in the middle row, right-most column*].

Referring to claim 12, Nishikawa further discloses that the guidance device comprises a protrusion having one switch element thereon [fig. 18].

Referring to claim 13, Nishikawa explains that the cross-section of the recess can comprises a variety of different shapes [figs. 15-20]. However, Nishikawa does not explicitly disclose that one of those shapes is substantially trapezoidal. Nonetheless, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a recess having a trapezoidal cross-section. Applicant has not disclosed that using a trapezoidal shape provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with trapezoidal shape or with the other shapes disclosed by Nishikawa because both shapes perform the same function--provides the user with tactile information. Therefore, it would have been obvious for one of ordinary skill in the art to modify Schauer and Nishikawa to obtain the invention specified in claim 13.

Referring to claim 14, Nishikawa further discloses that the cross-section of the recess is substantially semicircular [fig. 20].

Referring to claim 15, see the rejection of at least claim 13 above.

Referring to claim 16, see the rejection of at least claim 14 above.

Referring to claims 17-19, Schauer and Nishikawa do not disclose that the switch element is a resistive, electro-optical, or capacitive. However, Official notice is taken that resistive, electro-optical, or capacitive switches were commonly used for touch pad devices. Including these well known types of switches in Schauer and Nishikawa would have produced predictable

results--sensing a user's touch. Therefore, it would have been obvious to include these features in Schauer and Nishikawa.[1]

Referring to claim 20, Schauer further discloses that the input surface includes a touch sensitive screen [*par. 13. Note that a touch pad is interpreted as a touch sensitive screen.*].

Referring to claim 21, Schauer further discloses a switch that comprises a keypad defined on the touch sensitive screen [*par. 13 and fig. 1. Note that keys on a touchpad are interpreted as a keypad defined on the touch sensitive screen.*]. Schauer does not expressly disclose that the switch element is a resistive switch element. However, this feature was well known in the art (see rejection of claim 17 above).

Referring to claim 22, Schauer further discloses that the input characters include numerals, letters, and characters defined by the user [figs. 2 and 3].

Referring to claim 23, Schauer further discloses that the hand-writing input device further includes a micro-processor unit and a memory, said micro-processor unit obtaining codes of characters corresponding to said switch signal combinations from a predetermined inquiry table stored in said memory [*pars. 13-14. Note that the "computing device" in paragraph 14 comprises a microprocessor unit and memory.*].

Referring to claim 24, see the rejection of at least claim 23 above.

[1] Note that claims 17-19 were previously rejected under 35 USC 103 as being unpatentable over the combination of Schauer and Nishikawa. That rejection is being maintained in this Office action.

Referring to claims 25-29, Schauer and Nishikawa do not explicitly disclose that the hand-writing device further includes a serial, parallel, USB, infrared, or blue-tooth output interface. However, Official notice is taken that these types of output interfaces were exceedingly well known in the art. The Examiner notes that adding these well known output interfaces to Schauer and Nishikawa would have yielded equally well known and predictable results, namely providing output data from the hand-writing device. Therefore, it would have been obvious to modify Schauer and Nishikawa to include the output interfaces described above.

Allowable Subject Matter

6. Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/CHARLES KIM/
Primary Patent Examiner
Art Unit 2624
charles.kim@uspto.gov

March 24, 2010